

## TITLE OF THE INVENTION

### SUPPORTING STRUCTURE FOR A REFRIGERATOR

## CROSS-REFERENCE TO RELATED APPLICATIONS

**[0001]** This application claims the benefit of Korean Patent Applications No. 2003-042722, filed on June 27, 2003, and No. 2003-060678 filed on September 1, 2003, in the Korean Intellectual Property Office, the disclosures of which are incorporated herein by reference.

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention

**[0002]** The present invention relates to a refrigerator, and more particularly, to a supporting structure for a refrigerator.

### 2. Description of the Related Art

**[0003]** FIG. 3 is a combined perspective view of a conventional supporting structure for a conventional refrigerator and a main body of the refrigerator. FIG. 4 is an exploded perspective view of the supporting structure for the refrigerator and the main body of the refrigerator in FIG. 3.

**[0004]** As shown in FIGS. 3 and 4, a conventional refrigerator 101 comprises a main body 110 having a storage compartment divided into a freezing compartment and a refrigerating compartment, doors 102 provided on left and right sides of the main body 110, respectively, to rotatably open/close a front opening of the storage compartment of the main body 110, and bases 111 provided in opposite sides of a lower part of the main body 101 to be connected with a lower hinge 104 (to be described later).

**[0005]** Upper and lower parts of each door 102 are hingedly combined with the main body 110 by a door hinge 105, thereby rotatably opening/closing the main body 110. The door hinge 105 comprises an upper hinge 103 combining an upper part of the main body 110 and the upper

part of each door 102 and the lower hinge 104 combining a lower part of the main body 10 and the lower part of each door 102.

**[0006]** The base 111 is formed with at least one connecting hole 112 at predetermined intervals under the base 111 and connected to a support 120 (to be described later).

**[0007]** A conventional supporting structure for a refrigerator comprises the support 120 to support the refrigerator 101 and a shock absorber 130 disposed between the main body 110 and the support 120.

**[0008]** The support 120 is made of material having the strength sufficient to support the weight of the main body 110 and a predetermined height to be spaced apart from a bottom of the main body 110. The support 120 is formed with at least one connecting hole 121 to be aligned with a first connecting hole 112 of the base 111.

**[0009]** The shock absorber 130 is made of rubber and of a cylinder shape with a predetermined height and absorbs a shock given to the support 120 during manufacturing and delivering processes, thereby minimizing the shock transmitted from the support 120 to the main body 110.

**[0010]** However, in the conventional supporting structure for a refrigerator, a screw 122 connects the main body 110 and the support 120 to support the refrigerator 101. Thus, a connecting force of the screw 122 can become weakened during a movement of the refrigerator 101 to manufacture or deliver the refrigerator 101, thereby increasing a possibility that the refrigerator 101 may be overturned.

## **SUMMARY OF THE INVENTION**

**[0011]** Accordingly, it is an aspect of the present invention to provide a supporting structure for a refrigerator capable of preventing the refrigerator from overturning during manufacturing and delivering processes.

**[0012]** Additional aspects and/or advantages of the invention will be set forth in part in the description which follows and, in part, will be obvious from the description, or may be learned by practice of the invention.

**[0013]** The foregoing and/or other aspects of the present invention are achieved by providing a supporting structure of a refrigerator having a main body with a storage compartment and a base provided in a lower part of the main body, the supporting structure comprising a support provided under the main body to support the main body, and a supporting bracket to connect a side portion of the main body and the support.

**[0014]** According to an aspect of the invention, the supporting bracket comprises a lower supporting part connected to the support, and a side supporting part upwardly extended from the lower supporting part and connected to a side surface of the base.

**[0015]** According to an aspect of the invention, the supporting bracket further comprises a upper supporting part bent from the side supporting part to support a lower part of the main body.

**[0016]** According to an aspect of the invention, the lower supporting part and the side supporting part of the supporting bracket are formed with at least one connecting hole, respectively, to connect the support and the base with screws, respectively.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0017]** These and/or other aspects and advantages of the invention will become apparent and more readily appreciated from the following description of the embodiments, taken in conjunction with the accompanying drawings of which:

FIG. 1 is a combined perspective view of a supporting structure for a refrigerator according to an embodiment of the present invention and a main body of the refrigerator;

FIG. 2 is an exploded perspective view of the supporting structure for the refrigerator and the main body of the refrigerator of FIG. 1;

FIG. 3 is a combined perspective view of a conventional supporting structure for a conventional refrigerator and a main body of the refrigerator;

FIG. 4 is an exploded perspective view of the supporting structure for the refrigerator and the main body of the refrigerator of FIG. 3.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

**[0018]** Reference will now be made in detail to the embodiments of the present invention, examples of which are illustrated in the accompanying drawings, wherein like reference numerals refer to like elements throughout. The embodiments are described below in order to explain the present invention by referring to the figures.

**[0019]** FIG. 1 is a combined perspective view of a supporting structure for a refrigerator according to an embodiment of the present invention and a main body of the refrigerator. FIG. 2 is an exploded perspective view of the supporting structure for the refrigerator and the main body of the refrigerator of FIG. 1;

**[0020]** As shown in FIGS. 1 and 2, a refrigerator 1 comprises a main body 10 having a storage compartment, doors 2 to rotatably open/close a front opening of the storage compartment of the main body 10 and bases 11 connected with a lower hinge 4 (to be described later).

**[0021]** The main body 10 comprises a partition to divide the storage compartment into a freezing compartment and a refrigerating compartment.

**[0022]** The doors 2 are provided on left and right sides of the main body 10, respectively, and upper and lower parts of each door 2 is hingedly combined with the main body 10 by a door hinge 5 to rotatably open/close the main body 10.

**[0023]** The door hinge 5 comprises an upper hinge 3 to combine an upper part of the main body 10 and the upper part of each door 2 and the lower hinge 4 to combine an lower part of the main body 10 and the lower part of each door 2.

**[0024]** The bases 11 are provided at opposite sides of the lower part of the main body 10 and formed with at least one connecting hole 12 on a side surface to connect to a side supporting part 32 of a supporting bracket 30 (to be described later).

**[0025]** A supporting structure for the refrigerator according to an embodiment of the present invention comprises a support 20 disposed under the main body 10 to support the main body 10 and a pair of supporting brackets 30 provided at opposite sides of the main body 10, respectively, to connect the main body 10 and the support 20.

**[0026]** The support 20 is made of material having strength sufficient to support the weight of the main body 10 and a predetermined height to be spaced apart from a bottom of the main body 10. The support 20 is formed with at least one connecting hole 21 (to be described later) to connect with a lower supporting part 31 of the supporting bracket 30.

**[0027]** The supporting bracket 30 comprises two L-shaped portions and is provided along a longitudinal direction of the opposite sides of the main body 10. The supporting bracket 30 comprises a lower supporting part 31 contacting with the support 20, a side supporting part 32 upwardly extended from the lower supporting part 31 and an upper supporting part 33 bent from the side supporting part 32.

**[0028]** The lower supporting part 31 comprises at least one connecting hole 34a formed on a surface of the lower supporting part 31 at predetermined intervals.

**[0029]** The connecting hole 34a corresponds to the connecting hole 21 formed on the support 20, wherein a screw 40a is inserted through the at least one connecting hole 34a in the connecting hole 21.

**[0030]** The side supporting part 32 is connected to a side surface of the base 11 and comprises at least one connecting hole 34b formed on a surface of the side supporting part 32 at predetermined intervals.

**[0031]** The connecting hole 34b corresponds to the connecting hole 12 formed on the base 11, wherein a screw 40b is inserted through the connecting hole 34b and the connecting hole 12.

**[0032]** In the above embodiment, the supporting bracket 30 comprises the lower, side and upper supporting part 31, 32 and 33, to form the two L-shaped portions. However, the supporting bracket 30 may be formed of one L-shaped portion without the upper supporting part 33.

**[0033]** With the above configuration, the supporting structure for a refrigerator according to an embodiment of the present invention is installed as follows.

**[0034]** The support 20 is mounted on a surface suitable to position the main body 10 thereon. The support 20, as described above, is made of material having the strength sufficient to

support the weight of the main body 10 and a predetermined height to be spaced apart from the bottom of the main body 10.

**[0035]** Then, the main body 10 is located on the support 20 and the supporting bracket 30 is placed on the opposite sides of the main body 10. Here, the connecting hole 34a of the supporting bracket 30 corresponds to the connecting hole 21 of the support 20 and the connecting hole 34b thereof corresponds to the connecting hole 12 of the base 11. Thereafter, the screw 40a is inserted in a nut 50 through the connecting hole 34a and the connecting hole 21; and the screw 40b is inserted in the connecting hole 12 through the connecting hole 34b, thereby supporting the refrigerator 1.

**[0036]** In the embodiment described above, the support 20 and the supporting bracket 30 are directly connected. However, a shock absorber may be provided between the support 20 and the supporting bracket 30.

**[0037]** With this configuration, the supporting structure of the refrigerator according to an embodiment of the present invention comprises the support placed under the main body to support the main body and the supporting bracket to connect the main body and the support, thereby preventing the refrigerator from being overturned when it is moved.

**[0038]** As described above, according to the present invention, the refrigerator is supported by the support and the supporting bracket, thereby preventing the refrigerator from being overturned during a manufacturing process or a distribution process.

**[0039]** Although a few embodiments of the present invention have been shown and described, it will be appreciated by those skilled in the art that changes may be made in this embodiment without departing from the principles and spirit of the invention, the scope of which is defined in the claims and their equivalents.